

SEQUENCE LISTING

<110> Lydiate, Derek
Hannoufa, Abdelali
Bate, Nicholas
Hegedus, Dwayne

<120> Repressor Mediated Selection Strategies

<130> 11089.0003.NPUS01

<150> 60/416,369
<151> 2002-10-03

<160> 61

<170> PatentIn version 3.1

<210> 1
<211> 472
<212> DNA
<213> artificial

<220>
<223> Synthetic Ros optimized for plant expression

<400> 1
gcggatcccc gggtagact gagactgctt acggtaacgc tcaggatctt cttgttggc 60
ttactgctga tatcgttgt g cttacgttt ctaaccacgt tgttcctgtt actgagcttc 120
ctggacttat ctctgatgtt catactgcac tttctggaac atctgctctt gtttctgttg 180
ctgttaacgt tgagaagcag aagcctgctg tttctgttcg taagtctgtt caggatgatc 240
atatcgttt tttggagtgtt ggtgggttctt tcaagtctctt caagcgtcac ct tactactc 300
atcaactctat gactccagag gagtatacag agaagtggga tcttcctgtt gattacccta 360
tggttgctcc tgcttacgtt gaggctcggtt ctcgtctcgac taaggagatg ggtctcggtc 420
agcgtcgtaa ggctaacgtt ccaaaaaaga agcgtaaagggtt ctgagagctc gc 472

<210> 2
<211> 678
<212> DNA
<213> artificial

<220>
<223> Synthetic Tet optimized for plant expression

<400> 2
ggtaccgaga aatgtcttag attagataaa agtaaagtga ttaacagcgc attagagctg 60
cttaatgagg tcggaatcga gggcttaacg acccgtaaac tcgcgcagaa gctaggagta 120
gagcagccata cgttgtactg gcatgttaag aacaagcggg ctttgctcga cgcgcgcgc 180
attgagatgt tagacaggca ccatactcacttctgcctc tcgaagggga gagctggcaa 240

gatttcctcc	gtaacaacgc	taagtccttc	agatgtgctc	tcctatccca	tcgcgacgga	300	
gcaaaagttc	atctgggtac	acggcctaca	gagaaaac	agt	atgagactct	cgaaaatcaa	360
ctggcccttc	tgtgccaaca	gggtttctca	ctagagaatg	cgctttacgc	actctcagct	420	
gtggggcatt	ttactcttgg	ttgcgttttgc	gaggatcaag	agcatcaagt	cgctaaggaa	480	
gagagggaaa	cacctactac	tgatagtatg	ccgccacttc	ttcgacaagc	catcgaactt	540	
tttgatcacc	agggtgcaga	gccagccttc	ttgttcggcc	ttgaatttgc	catatgcgga	600	
ttggaaaagc	agcttaaatg	tgaatcgggg	tctcttaagc	caaaaaagaa	gcgtaaggc	660	
tgacttaagt	gaatcgat					678	

<210> 3
<211> 149
<212> PRT
<213> Artificial

<220>
<223> Synthetic Ros

<400> 3

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys Pro
50 55 60

Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65 70 75 80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu Thr Thr His
85 90 95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
100 105 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu Ala Arg Ser Arg Leu
115 120 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg Pro Lys
130 135 140

Lys Lys Arg Lys Val
145

<210> 4
<211> 216
<212> PRT
<213> Artificial

<220>
<223> Synthetic Tet

<400> 4

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1 5 10 15

Leu Asn Glu Val Gly Ile Glu G ly Leu Thr Thr Arg Lys Leu Ala Gln
20 25 30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
35 40 45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
50 55 60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65 70 75 80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
85 90 95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
100 105 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
115 120 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
130 135 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145 150 155 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
165 170 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
180 185 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser Leu
195 200 205

Lys Pro Lys Lys Lys Arg Lys Val
210 215

<210> 5
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter sense primer

<400> 5
aagcttatgt atgcaagagt cagc

24

<210> 6
<211> 24
<212> DNA
<213> Artificial

<220>
<223> Actin2 promoter anti -sense primer

<400> 6
ttgactagta tcagcctcag ccat

24

<210> 7
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Ros sense primer

<400> 7
gcggatccga tgacggaaac tgcatac

27

<210> 8
<211> 25
<212> DNA
<213> Artificial

<220>
<223> Ros anti -sense primer

<400> 8
gcaagcttca acggttcgcc ttgcgc

25

<210> 9	
<211> 36	
<212> DNA	
<213> Artificial	
<220>	
<223> iaaH sense primer	
<400> 9	
tgcggatgca taagcttgct gacattgcta gaaaag	36
<210> 10	
<211> 26	
<212> DNA	
<213> Artificial	
<220>	
<223> iaaH anti -sense primer	
<400> 10	
cggggatcct ttcagggcca tttcag	26
<210> 11	
<211> 43	
<212> DNA	
<213> Artificial	
<220>	
<223> Tet -FI primer	
<400> 11	
gatcactcta tcagtgatag agtgaactct atcagtgata gag	43
<210> 12	
<211> 41	
<212> DNA	
<213> Artificial	
<220>	
<223> Tet -RI primer	
<400> 12	
cgctctatca ctgatagagt tcactctatc actgatagag t	41
<210> 13	
<211> 26	
<212> DNA	
<213> Artificial	
<220>	
<223> iaaH ORF sense primer	
<400> 13	
gctctagaat ggtgcccatc acctcg	26

<210> 14
<211> 26
<212> DNA
<213> Artificial

<220>
<223> **iaaH ORF anti -sense primer**

<400> 14
gcgagctcaw atggcttytt cyaatg 26

<210> 15
<211> 59
<212> DNA
<213> Artificial

<220>
<223> **Ros -OP1**

<400> 15
gatcctatat ttcaatttta ttgtaatata gctatatttc aattttattg taatataat 59

<210> 16
<211> 57
<212> DNA
<213> Artificial

<220>
<223> **Ros -OP2**

<400> 16
cgattatattt acaataaaaat t gaaatatacg ctatattaca ataaaattga aatatacg 57

<210> 17
<211> 25
<212> DNA
<213> **Agrobacterium tumefaciens**

<400> 17
tatatttcaa ttttatttta atata 25

<210> 18
<211> 27
<212> DNA
<213> **Agrobacterium tumefaciens**

<400> 18
tataattaaa atattaactg tcgcatt 27

<210> 19
<211> 429
<212> DNA
<213> **Agrobacterium tumefaciens**

<400> 19
atgacggaaa ctgcatacgg taacgcccag gatctgctgg tcgaactgac ggcggatatt 60
gtggctgcct atgttagcaa ccacgtcggt ccggttaactg agttcccggt ccttatttcg 120
gatgttcata cggcactcag cggAACatcg gcaccggcat cggTggcggt caatgttcaa 180
aaggcagaacg ctgctgtgtc gttcgcaag tcggttcagg acgatcatat cgtctgtttg 240
aatgtgggtg gtcgctcaa gtcgctcaaa cggcacctga cgacgcata cagcatgacg 300
ccggaagaat atcgcgaaaa atgggatctg cggtcgatt atccgatggt tgctcccgcc 360
tatgccgaag cccgttcgacg gtcgccaag gaaatgggtc tcggtcagcgcg ccgcaaggcgc 420
aaccgttga 429

<210> 20
<211> 624
<212> DNA
<213> escherichia coli

<400> 20
atgtctagat tagataaaag taaagtgatt aacagcgcatt tagagctgct taatgaggtc 60
ggaatcgaag gcctaacaac ccgtaaacctt gcgcagaagc tcggggtaga gcaggctaca 120
ttgtattggc atgtaaaaaaaaa taagcgggcc ctgctcgacg cgtagccat tgagatgtta 180
gataggcacc atactcactt ttgccttta gaagggaaa gctggcaaga tttttacgt 240
aataacgcta aaagtttag atgtgcttta ctaagtcatc gcgtggagc aaaagtacat 300
ttaggtacac ggcctacaga aaaacagtat gaaactctcg aaaatcaatt agcctttta 360
tgccaacaag gttttcact agagaatgca ttatatgcac tcagcgctgt gggcatttt 420
acttttaggtt gcgtattgga agatcaagag catcaagtctg ctaaagaaga aagggaaaca 480
cctactactg atagtatgcc gccatttta cgacaagcta tcgaattatt tgatcaccaa 540
ggtgcagagc cagccttctt attcggcctt gaatt gatca tatgcggatt agaaaaacaa 600
cttaaatgtg aaagtgggtc ttaa 624

<210> 21
<211> 142
<212> PRT
<213> Agrobacterium tumefaciens

<400> 21

Met Thr Glu Thr Ala Tyr Gly Asn Ala Gln Asp Leu Leu Val Glu Leu
1 5 10 15

Thr Ala Asp Ile Val Ala Ala Tyr Val Ser Asn His Val Val Pro Val
20 25 30

Thr Glu Leu Pro Gly Leu Ile Ser Asp Val His Thr Ala Leu Ser Gly
35 40 45

Thr Ser Ala Pro Ala Ser Val Ala Val Asn Val Glu Lys Gln Lys Pro
50 55 60

Ala Val Ser Val Arg Lys Ser Val Gln Asp Asp His Ile Val Cys Leu
65 70 75 80

Glu Cys Gly Gly Ser Phe Lys Ser Leu Lys Arg His Leu Thr Thr His
85 90 95

His Ser Met Thr Pro Glu Glu Tyr Arg Glu Lys Trp Asp Leu Pro Val
100 105 110

Asp Tyr Pro Met Val Ala Pro Ala Tyr Ala Glu Ala Arg Ser Arg Leu
115 120 125

Ala Lys Glu Met Gly Leu Gly Gln Arg Arg Lys Ala Asn Arg
130 135 140

<210> 22
<211> 207
<212> PRT
<213> Escherichia coli

<400> 22

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1 5 10 15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
20 25 30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
35 40 45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
50 55 60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65 70 75 80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
85 90 95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
100 105 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
115 120 125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
130 135 140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145 150 155 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
165 170 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
180 185 190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser
195 200 205

<210> 23
<211> 10
<212> DNA
<213> Artificial

<220>
<223> Consensus Ros operator sequence

<400> 23
watdhwkmar 10

<210> 24
<211> 7
<212> PRT
<213> SV40

<400> 24

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 25
<211> 109
<212> DNA
<213> Artificial

<220>
<223> Ros -OPDS

<400> 25
atctccactg acgtaaggga tgacgcacaa tcccaactatc cttcgcaaga cccttcctct 60
atataatata tttcaatttt attgtaatat aacacggggg actctagag 109

<210> 26
<211> 113
<212> DNA
<213> Artificial

<220>
<223> Ros -OPDA

<400> 26
gatcctctag agtccccgt gttatattac aataaaattg aaatatatta tatagaggaa 60
gggtcttgcg aaggatagtg ggattgtcg tcatccctta cgtcagtggaa gat 113

<210> 27
<211> 138
<212> DNA
<213> Artificial

<220>
<223> p74-315 sequence from EcoRV to ATG of GUS

<400> 27
gatatctcca ctgacgtaag ggatgacgca caatcccact atccttcgca agacccttcc 60
tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatccccg 120
ggtggtcagt cccttatg 138

<210> 28
<211> 107
<212> DNA
<213> Artificial

<220>
<223> Ros -OPUS

<400> 28
atctccactg acgtaaggga tgacgcaca a tctatatttc aattttattg taatatacta 60
tataaggaag ttcatattcat ttggagagaa cacgggggac tctagag 107

<210> 29
<211> 111
<212> DNA
<213> Artificial

<220>
<223> Ros -OPUA

<400> 29
gatcctctag agtccccgt gttctctcca aatgaaatga acttccttat atagtatatt 60

acaataaaat taaaatatacg attgtgcgtc atcccttacg tcagtggaga t 111

<210> 30
<211> 136
<212> DNA
<213> Artificial

<220>
<223> p74-316 sequence from EcoRV to ATG of GUS

<400> 30
gatatctcca ctgacgtaag ggatgacgca caatctatat t tcaattttt ttgtaatata 60
ctatataagg aagttcattt catttggaga gaacacgggg gactctagag gatccccggg 120
tggtcagtcc cttatg 136

<210> 31
<211> 108
<212> DNA
<213> Artificial

<220>
<223> Ros-OPPS

<400> 31
atctccactg acgtaaggga tgacgcacaa tctatatttc aattttattt taatatacta 60
tataatataat ttcaattttt ttgtaatata acacggggga ctctagag 108

<210> 32
<211> 112
<212> DNA
<213> Artificial

<220>
<223> Ros-OPPA

<400> 32
gatcctctag agtcccgggt gttatattac aataaaattt aatatattt tatagtatat 60
tacaataaaa ttgaaatata gattgtgcgt catcccttac gtcagtggag at 112

<210> 33
<211> 137
<212> DNA
<213> Artificial

<220>
<223> p74-309 sequence from EcoRV to ATG of GUS

<400> 33
gatatctcca ctgacgtaag ggatgacgca caatctatat ttcaattttt ttgtaatata 60
ctatataata tatttcaattt ttattgtaat ataacacggg ggactctaga gatccccgg 120

gtggtcagtc cctttag 137

<210> 34
<211> 237
<212> DNA
<213> Artificial

<220>
<223> p74-118 sequence from EcoRV to ATG of GUS

<400> 34
gatatctcca ctgacgtaag ggatgacgca caatccact atccttcgca agacccttcc 60
tctatataat atatttcaat tttattgtaa tataacacgg gggactctag aggatcstat 120
atttcaattt tattgtataa tagctatatt tcaattttat tgtaatataa tcgatttcga 180
acccggggta ccgaattcct cgagtctaga ggatccccgg gtggtcagtc cctttag 237

<210> 35
<211> 235
<212> DNA
<213> Artificial

<220>
<223> p 74-117 sequence from EcoRV to ATG of GUS

<400> 35
gatatctcca ctgacgtaag ggatgacgca caatctataat ttcaatttta ttgtatata 60
ctatataagg aagttcattt catttggaga gaacacgggg gactctagag gatcctataat 120
ttcaatttta ttgtatataa gctatatttc aattttattttaatataatc gatttcgaac 180
ccggggtacc gaattcctcg agtctagagg atccccgggt ggtcagtc 235

<210> 36
<211> 16
<212> PRT
<213> Arabidopsis

<400> 36

Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg
1 5 10 15

<210> 37
<211> 18
<212> PRT
<213> Tobacco

<400> 37

Arg Arg Leu Ala Gln Asn Arg Glu Ala Ala Arg Lys Ser Arg Ile Arg
1 5 10 15

Lys Lys

<210> 38
<211> 20
<212> PRT
<213> Tobacco

<400> 38

Lys Lys Arg Ala Arg Leu Val Asn Arg Glu Ser Ala Gln Leu Ser Arg
1 5 10 15

Gln Arg Lys Lys
20

<210> 39
<211> 18
<212> PRT
<213> Maize

<400> 39

Arg Lys Arg Lys Glu Ser Asn Arg Glu Ser Ala Arg Arg Ser Arg Tyr
1 5 10 15

Arg Lys

<210> 40
<211> 45
<212> PRT
<213> Potyvirus

<220>
<221> MISC_FEATURE
<222> (11)..(42)
<223> where Xaa is any amino acid

<400> 40

Lys Lys Asn Gln Lys His Lys Leu Lys Met Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa
20 25 30

Xaa Lys Arg Lys
35 40 45

<210> 41
<211> 17
<212> PRT
<213> Xenopus

<400> 41

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
1 5 10 15

Ile

<210> 42
<211> 17
<212> PRT
<213> Xenopus

<400> 42

Lys Arg Ile Ala Pro Asp Ser Ala Ser Lys Val Pro Arg Lys Lys Thr
1 5 10 15

Arg

<210> 43
<211> 17
<212> PRT
<213> Xenopus

<400> 43

Lys Arg Lys Thr Glu Glu Glu Ser Pro Leu Lys Asp Lys Asp Ala Lys
1 5 10 15

Lys

<210> 44
<211> 17
<212> PRT
<213> Rat

<400> 44

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 45
<211> 17
<212> PRT
<213> Human

<400> 45

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 46
<211> 17
<212> PRT
<213> Human

<400> 46

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 47
<211> 17
<212> PRT
<213> Chicken

<400> 47

Arg Lys Cys Cys Gln Ala Gly Met Val Leu Gly Gly Arg Lys Phe Lys
1 5 10 15

Lys

<210> 48
<211> 17
<212> PRT
<213> Human

<400> 48

Arg Lys Cys Tyr Glu Ala Gly Met Thr Leu Gly Ala Arg Lys Ile Lys
1 5 10 15

Lys

<210> 49
<211> 17
<212> PRT
<213> Chicken

<400> 49

Arg Arg Cys Phe Glu Val Arg Val Cys Ala Cys Pro Gly Arg Asp Arg
1 5 10 15

Lys

<210> 50
<211> 236
<212> DNA
<213> Artificial

<220>

<223> p74-114 sequence from EcoRV to ATG of GUS

<400> 50

gatatctcca ctgacgtaag ggatgacg ca caatctatat ttcaatttta ttgtaatata 60

ctatataata tatttcaatt ttattgtaat ataacacggg ggactctaga ggatccata 120

tttcaatttt attgtaatat agctatattt caattttattt gtaatataat cgatttcgaa 180

cccggttac cgaatttcctc gagtctagag gatccccggg tggtcagtcc cttatg 236

<210> 51

<211> 33

<212> DNA

<213> Artificial

<220>

<223> synRos forward primer

<400> 51

gcggatccat gactgagact gcttacggta acg 33

<210> 52

<211> 29

<212> DNA

<213> Artificial

<220>

<223> synRos reverse primer

<400> 52

gcgagctcga ccttacgctt cttttttgg 29

<210> 53

<211> 26

<212> DNA
<213> Artificial

<220>
<223> wtRos forward primer

<400> 53
cgggatccat gacggaaact gcatac 26

<210> 54
<211> 24
<212> DNA
<213> Artificial

<220>
<223> wtRos reverse primer

<400> 54
gcgagctcac ggttcgccctt gcgg 24

<210> 55
<211> 108
<212> DNA
<213> Artificial

<220>
<223> Ros oligonucleotide for Southwestern

<400> 55
atctccactg acgtaaggga tgacgcacaa tctatattc aattttatgg taatatacta 60
tataatatat ttcaatttta ttgtaatata acacggggga ctctagag 108

<210> 56
<211> 43
<212> DNA
<213> Artificial

<220>
<223> Tet oligonucleotide for Southwestern

<400> 56
gatcactcta tcagtgatag agtgaactct atcagtgata gag 43

<210> 57
<211> 10
<212> DNA
<213> Agrobacterium tumefaciens

<400> 57
tatatttcaa 10

<210> 58
<211> 10
<212> DNA

<213> **Agrobacterium tumefaciens**

<400> 58
tatattacaa

10

<210> 59
<211> 10
<212> DNA
<213> **Agrobacterium tumefaciens**

<400> 59
tataattaaa

10

<210> 60
<211> 10
<212> DNA
<213> **Agrobacterium tumefaciens**

<400> 60
aatgcgacag

10

<210> 61
<211> 10
<212> DNA
<213> **Artificial**

<220>
<223> **Ros operator sequence (1)**

<400> 61
tatahttcaa

10